

PTO 2009-5523

Japanese Unexamined (*Kokai*) Patent Publication No. H3-175941, published July 31, 1991; Application No. H1-317274, filed December 5, 1989; Inventor: Yoshimaro FUJII; Assignee: KK Fujii Seimen

RAW UDON NOODLES CONTAINING WHEY MINERALS AND MANUFACTURING METHOD THEREOF

2. Claims

[Claim 1]

Raw udon noodles containing whey minerals characterized in that whey mineral salt water is added and kneaded at an addition rate of 45% to wheat flour, and is used as udon noodles.

[Claim 2]

Manufacturing method of raw udon noodles containing whey minerals characterized in that ozone from an ozone generator is blown into whey mineral salt water and the cheese odor particular to whey mineral salts is removed; then, the whey mineral salt water is added and kneaded at an addition rate of 45% to wheat flour, and udon noodles are manufactured.

3. Detailed Explanation of the Invention

[Field of Use in Industry]

The present invention concerns raw udon noodles containing whey minerals and a manufacturing method thereof, which uses healthy whey mineral salts instead of table salt.

[Prior Art Technology]

Based on conventional udon noodles, when too much salt (sodium chloride [NaCl]) is taken, there is the problem that this is significantly associated with the generation of adult diseases of the circulatory organs (arteriosclerosis, cerebral hemorrhaging).

[Objective]

In consideration of the aforementioned points, the objective of the present invention is to offer raw udon noodles containing whey minerals and a manufacturing method thereof with a moderately salty taste, wherein salt is reduced by 43% compared to conventional raw udon, and which still has a satisfactory taste.

[Means for Resolving Problems]

The means for resolving the problems based on the present invention is that ozone from an ozone generator is blown into whey mineral salt water and the cheese odor particular to whey mineral salts is removed; then, the whey mineral salt water is added and kneaded at an addition rate of 45% to wheat flour, and udon noodles are manufactured.

[Operation]

With the aforementioned means for resolving problems, raw udon noodles containing whey minerals with a moderately salty taste, wherein salt is reduced by 43% compared to conventional raw udon, and which still has a satisfactory taste, are obtained.

Whey minerals derived from milk minerals include all in a good balance, such as calcium, potassium, magnesium, and the like, which are important for people, as well as fine quantities of essential minerals.

[Embodiment]

An embodiment of the present invention is explained below.

For the manufacturing method, ozone from an ozone generator is uniformly blown for one day and night into whey mineral salt water and the cheese odor particular to whey mineral salts is removed; then, the whey mineral salt water is added and kneaded at an addition rate of 45% (40% – 50%) to wheat flour, and udon noodles are manufactured. These are left for 8 hours in a cold-air dryer, about 25% of the water is removed, and using a deoxidation material, they are manufactured so as to withstand long-term storage.

With the present invention, as described above, instead of conventional table salt (sodium chloride [NaCl]), whey mineral salts (57% sodium chloride), which are generated during the process of making cheese from milk, are used; thus, while the taking of sodium chloride is suppressed, a salty taste is maintained. Additionally, whey mineral salts contain calcium, potassium, magnesium, and the like, as well as fine quantities of essential minerals, and the nutrients that are most deficient in the diet of Japanese people can be supplemented.

The substances of whey minerals are as follows.

Milk	Condensed milk (cheese)	Casein Milk fat Fat-soluble vitamins
	<u>Whey</u>	<u>Minerals</u> Whey protein Lactose Vitamins B1, B2, B6, B12 Niacin Pantothenic acid Others

Example of analysis value of whey minerals

Outer appearance: slightly yellow-brown colored powder and grains

Dissolving state: No white turbidity, undissolved substances, or abnormalities

Liquidity (pH): 8.39

Drying reduction quantity: 0.9%

Proteins: 2.1%

Fat: 0.08%

Carbohydrates: 11.97%

Residue on ignition: 84.95%

Na: 22.26%

K: 10.13%

Ca: 0.95%

Mg: 0.07%

P: 0.25%

Fe: 26.5 µg/g

Cu: 3.9 µg/g

Mn: 1.1 µg/g

Zn: 0.81 µg/g

Arsenic: 0.5 ppm

Heavy metals: 5.0 ppm

When the intake of minerals is insufficient, it is known that various disabilities occur. These disabilities are shown on the following table. Whey minerals derived from milk minerals contain a good balance of calcium, potassium, magnesium, and the like, which are important for people, as well as fine quantities of essential minerals.

Table: Disabilities that occur based on an insufficient intake of minerals

Mineral: Symptoms of insufficiency

Iodine (I): Enlarged thyroid gland, obesity, arrested growth

Selenium (Se): Hematopoietic disorder, malignant anemia, sensibility to cold, headaches

Molybdenum (Mo): Kidney disorder, growth insufficiency

Fluorine (F): Weakening of teeth and bones

Copper (Cu): Anemia, bone breakages and deformations easily occur, insufficient iron absorption

Chromium (Cr): Muscle disorders, abnormal sugar tolerance (diabetes)

Manganese (Mn): Metabolism reduction, poor bone structure, movement ataxicity, increased mortality of newborns

Zinc (Zn): Growth disorders, dermatitis and skin disorders, diabetes

Iron (Fe): Anemia, fatigue, growth deficiencies, sensitivity to cold, headaches

Magnesium (Mg): Dilation of blood vessels, palpitations, irritability, heart attacks

Calcium (Ca): Insufficient formation of bones and teeth, arteriosclerosis, high blood pressure

Potassium (K): Loss of muscle strength, myasthenia, intestinal blockages, reduction of sensory reflexes

Because the whey mineral salts of the present invention are created by a process of making cheese from milk, there is a particular cheese odor. Because a product can be made wherein deodorizing is carried out by an ozone generator and the taste is not lost, the invention is useful in that the taste of noodles is present.

The present invention is not limited to the aforementioned embodiment. Naturally, various modifications and changes may be added to the aforementioned embodiment within the scope of the present invention.

[Results of the Invention]

As is clear from the aforementioned explanation, with the present invention, raw udon noodles containing whey minerals with a moderately salty taste, wherein salt (sodium chloride) is reduced by 43% compared to conventional raw udon, and which still has a satisfactory taste, are obtained.

Additionally, a manufacturing method wherein the cheese odor particular to whey mineral salts is removed is offered.

Whey minerals derived from milk minerals contain a good balance of calcium, potassium, magnesium, and the like, which are important for people, as well as fine quantities of essential minerals.

Translations Branch
United States Patent and Trademark Office
June 8, 2009
Steven M. Spar